CLAIMS

What is claimed is:

5 1.   A process for restricting access to an
object-oriented method within a data processing system,
the process comprising:
        initiating a call to the object-oriented method from
a requester;
10   determining whether an invocation of the
object-oriented method has been restricted with an
object-oriented enforcement construct;
        in response to a determination that access to the
object-oriented method has been restricted with an
15 object-oriented enforcement construct, performing an
authorization process to determine whether the requester
is authorized to invoke the object-oriented method; and
        in response to a determination that the requester is
authorized to invoke the object-oriented method, invoking
20 the object-oriented method.

2.   The process of claim 1 further comprising:
        in response to a determination that the requester is
not authorized to invoke the object-oriented method,
25 returning an error response to the requester for the call
to the object-oriented method.

3.   The process of claim 1 further comprising:
        identifying the authorization process that is
30 associated with the object-oriented method.

4.   The process of claim 1 further comprising:

obtaining identity information associated with the requester; and

passing the identity information associated with the requester to the authorization process.

5.   The process of claim 1 wherein the authorization process is performed by invoking an authorization method.

6.   The process of claim 1 further comprising:

analyzing runtime environment information in order to determine whether an invocation of the object-oriented method has been restricted with an object-oriented enforcement construct.

7.   The process of claim 1 wherein the invocation of the object-oriented method has been restricted with an object-oriented enforcement construct applied at a method level in a source code statement for the object-oriented method.

8.   The process of claim 1 wherein the invocation of the object-oriented method has been restricted with an object-oriented enforcement construct applied at a class level in a source code statement for a class that includes the object-oriented method.

9.   A process of generating source code for restricting access to an object-oriented method within a data processing system, the process comprising:

5   editing a source code statement that defines the object-oriented method within a source code file; and

modifying the source code file to include an enforcement construct, wherein the enforcement construct comprises an authorization process identifier associated

10   with an authorization process and a reserved word to be recognized by a compiler as requiring runtime execution of the authorization process, prior to invoking the object-oriented method, to determine whether an entity is authorized to invoke the object-oriented method.

15

10. The process of claim 9 wherein the enforcement construct is included in the source code statement that defines the object-oriented method.

20   11. The process of claim 9 wherein the enforcement construct is included in a source code statement that defines a class that includes the object-oriented method.

12. A process of generating executable code for restricting access to an object-oriented method within a data processing system, the process comprising:

compiling source code that defines the

5   object-oriented method within a source code file; and

compiling source code that defines an enforcement construct, wherein the enforcement construct comprises an authorization process identifier associated with an authorization process and a reserved word to be

10   recognized by a compiler as requiring runtime execution of the authorization process, prior to invoking the object-oriented method, to determine whether an entity is authorized to invoke the object-oriented method.

15   13. The process of claim 12 wherein the enforcement construct is included in a source code statement that defines the object-oriented method.

14. The process of claim 12 wherein the enforcement

20   construct is included in a source code statement that defines a class that includes the object-oriented method.

15. A process of restricting invocation of an object-oriented method within a data processing system, the process comprising:

    identifying the object-oriented method within a data

5   structure; and

    associating an object-oriented enforcement construct with the object-oriented method, wherein the enforcement construct comprises an authorization process identifier associated with an authorization process that is to be

10   executed, prior to invoking the object-oriented method, to determine whether an entity is authorized to invoke the object-oriented method.

16. A computer program product in a computer-readable medium for use within a data processing system for restricting access to an object-oriented method, the computer program product comprising:

5   instructions for initiating a call to the object-oriented method from a requester;

        instructions for determining whether an invocation of the object-oriented method has been restricted with an object-oriented enforcement construct;

10   instructions for performing, in response to a determination that access to the object-oriented method has been restricted with an object-oriented enforcement construct, an authorization process to determine whether the requester is authorized to invoke the object-oriented

15 method; and

        instructions for invoking, in response to a determination that the requester is authorized to invoke the object-oriented method, the object-oriented method.

20 17. The computer program product of claim 16 further comprising:

        instructions for returning, in response to a determination that the requester is not authorized to invoke the object-oriented method, an error response to

25 the requester for the call to the object-oriented method.

18. The computer program product of claim 16 further comprising:

        instructions for identifying the authorization

30 process that is associated with the object-oriented method.

19. The computer program product of claim 16 further comprising:

    instructions for obtaining identity information

5   associated with the requester; and

    instructions for passing the identity information associated with the requester to the authorization process.

10   20. The computer program product of claim 16 wherein the authorization process is performed by invoking an authorization method.

21. The computer program product of claim 16 further

15   comprising:

    instructions for analyzing runtime environment information in order to determine whether an invocation of the object-oriented method has been restricted with an object-oriented enforcement construct.

20

22. The computer program product of claim 16 wherein the invocation of the object-oriented method has been restricted with an object-oriented enforcement construct applied at a method level in a source code statement for

25   the object-oriented method.

23. The computer program product of claim 16 wherein the invocation of the object-oriented method has been restricted with an object-oriented enforcement construct

30   applied at a class level in a source code statement for a class that includes the object-oriented method.

24. A computer program product in a computer-readable medium for use within a data processing system to generate source code for restricting access to an
5 object-oriented method, the computer program product comprising:

   instructions for editing a source code statement that defines the object-oriented method within a source code file; and
10   instructions for modifying the source code file to include an enforcement construct, wherein the enforcement construct comprises an authorization process identifier associated with an authorization process and a reserved word to be recognized by a compiler as requiring runtime
15 execution of the authorization process, prior to invoking the object-oriented method, to determine whether an entity is authorized to invoke the object-oriented method.

20 25. The computer program product of claim 24 wherein the enforcement construct is included in the source code statement that defines the object-oriented method.

   26. The computer program product of claim 24 wherein the
25 enforcement construct is included in a source code statement that defines a class that includes the object-oriented method.

27. A computer program product in a computer-readable medium for use within a data processing system to generate executable code for restricting access to an object-oriented method, the computer program product

5   comprising:

   instructions for compiling source code that defines the object-oriented method within a source code file; and

   instructions for compiling source code that defines an enforcement construct, wherein the enforcement

10   construct comprises an authorization process identifier associated with an authorization process and a reserved word to be recognized by a compiler as requiring runtime execution of the authorization process, prior to invoking the object-oriented method, to determine whether an

15   entity is authorized to invoke the object-oriented method.

28. The computer program product of claim 27 wherein the enforcement construct is included in a source code

20   statement that defines the object-oriented method.

29. The computer program product of claim 27 wherein the enforcement construct is included in a source code statement that defines a class that includes the

25   object-oriented method.

30. A computer program product in a computer-readable medium for use within a data processing system for restricting invocation of an object-oriented method, the computer program product comprising:

5   instructions for identifying the object-oriented method within a data structure; and

instructions for associating an object-oriented enforcement construct with the object-oriented method, wherein the enforcement construct comprises an

10   authorization process identifier associated with an authorization process that is to be executed, prior to invoking the object-oriented method, to determine whether an entity is authorized to invoke the object-oriented method.

31. An apparatus for restricting access to an object-oriented method within a data processing system, the apparatus comprising:

means for initiating a call to the object-oriented
5   method from a requester;

means for determining whether an invocation of the object-oriented method has been restricted with an object-oriented enforcement construct;

means for performing, in response to a determination
10   that access to the object-oriented method has been restricted with an object-oriented enforcement construct, an authorization process to determine whether the requester is authorized to invoke the object-oriented method; and

15   means for invoking, in response to a determination that the requester is authorized to invoke the object-oriented method, the object-oriented method.

32. The apparatus of claim 31 further comprising:
20   means for returning, in response to a determination that the requester is not authorized to invoke the object-oriented method, an error response to the requester for the call to the object-oriented method.

25   33. The apparatus of claim 31 further comprising:
means for identifying the authorization process that is associated with the object-oriented method.

34. The apparatus of claim 31 further comprising:

   means for obtaining identity information associated with the requester; and

   means for passing the identity information associated with the requester to the authorization process.

35. The apparatus of claim 31 wherein the authorization process is performed by invoking an authorization method.

36. The apparatus of claim 31 further comprising:

   means for analyzing runtime environment information in order to determine whether an invocation of the object-oriented method has been restricted with an object-oriented enforcement construct.

37. The apparatus of claim 31 wherein the invocation of the object-oriented method has been restricted with an object-oriented enforcement construct applied at a method level in a source code statement for the object-oriented method.

38. The apparatus of claim 31 wherein the invocation of the object-oriented method has been restricted with an object-oriented enforcement construct applied at a class level in a source code statement for a class that includes the object-oriented method.